

CLAIMS

1 1. A metal-polishing liquid material comprising an
2 oxidized-metal etchant, a protective film-forming agent, and a dissolution
3 promoter for the protective film-forming agent.

1 2. The metal-polishing liquid material according to claim 1,
2 further comprising at least one of an oxidizing agent and water.

1 3. The metal-polishing liquid material according to claim 1,
2 comprising the ingredient group consisting of the oxidizing agent, the
3 oxidized-metal etchant, the protective film-forming agent and the
4 dissolution promoter in a divided state into two constituent elements not
5 mixed.

1 4. The metal-polishing liquid material according to claim 1 or 2,
2 wherein the dissolution promoter is a surfactant.

1 5. The metal-polishing liquid material according to claim 4,
2 wherein the surfactant is at least one of esters, ethers, polysaccharides,
3 salts of amino acids, polycarboxylic acids, salts of polycarboxylic acids,
4 vinyl polymers, sulfonic acids, sulfonates, and amides.

1 6. ~~The metal-polishing liquid material according to claim 1 or 2,~~
2 ~~wherein the dissolution promoter is a solvent in which the solubility of~~
3 ~~the protective film-forming agent is at least 25 g/liter.~~

1 7. ~~The metal-polishing liquid material according to claim 6,~~
2 ~~wherein the solvent is a good solvent for the protective film-forming~~
3 ~~agent.~~

1 8. ~~The metal-polishing liquid material according to claim 6,~~
2 ~~wherein the solvent is at least one of alcohols, ethers and ketones.~~

1 9. ~~The metal-polishing liquid material according to claim 6,~~
2 ~~wherein the amount of the solvent is smaller than 50 g relative to 100 g of~~
3 ~~a total amount of the material.~~

1 10. ~~The metal-polishing liquid material according to claim 1 or 2,~~
2 ~~wherein at least a part of the protective film-forming agent is solid having~~
3 ~~a mean particle size of at most 100 μ m.~~

1 11. ~~The metal-polishing liquid material according to claim 1 or 2,~~
2 ~~further comprising abrasive grains.~~

1 12. A metal-polishing liquid which comprises an oxidizing agent,
2 an oxidized-metal etchant, a protective film-forming agent, a dissolution
3 promoter for the protective film-forming agent, and water.

1 13. The metal-polishing liquid according to claim 12, wherein the
2 dissolution promoter is a surfactant.

1 14. The metal-polishing liquid according to claim 12, wherein the
2 dissolution promoter is a solvent in which the solubility of the protective
3 film-forming agent is at least 25 g/liter.

1 15. The metal-polishing liquid according to claim 12, wherein at
2 least a part of the protective film-forming agent is solid, having a mean
3 particle size of at most 100 μm .

1 16. The metal-polishing liquid according to claim 12, further
2 comprising abrasive grains.

1 17. A method for producing a metal-polishing liquid, comprising
2 a step of diluting the metal-polishing liquid material of claim 1 or 2 with a
3 diluent.

1 18. A method for producing a metal-polishing liquid of claim 12,
2 comprising a step of diluting a metal-polishing liquid material comprising
3 at least one ingredient of an ingredient group consisting of an oxidizing
4 agent, an oxidized-metal etchant, a protective film-forming agent and a
5 dissolution promoter for the protective film-forming agent, with an
6 aqueous solution for dilution of at least one ingredient of the ingredient
7 group.

1 19. A method for producing a metal-polishing liquid which
2 comprises a step of mixing the following:

3 a first constituent element that contains at least one ingredient of
4 an ingredient group consisting of an oxidizing agent, an oxidized-metal
5 etchant, a protective film-forming agent and a dissolution promoter for
6 the protective film-forming agent,

7 a second constituent element that contains at least one of the other
8 ingredients of the ingredient group, and

9 a diluent,

10 in any desired order.

1 20. The method for producing a metal-polishing liquid according
2 to claim 17 or 19, wherein the diluent is water or an aqueous diluent
3 solution.

1 21. The method for producing a metal-polishing liquid according
2 to claim 19, wherein the first constituent element comprises an oxidizing
3 agent, and the second constituent element comprises an oxidized-metal
4 etchant, a protective film-forming agent and a dissolution promoter.

1 22. The method for producing a metal-polishing liquid according
2 to claim 19, wherein the first constituent element further comprises the
3 protective film-forming agent and the dissolution promoter.

1 23. The method for producing a metal-polishing liquid as

2 claimed in claim 19, wherein in the mixing step, the oxidizing agent and
3 the oxidizing agent-containing mixture are kept at a temperature at most
4 40°C.

1 24. The method for producing a metal-polishing liquid as
2 claimed in claim 19, wherein at least a part of the protective film-forming
3 agent is solid, having a mean particle size of at most 100 μm , and is
4 dissolved or dispersed in the metal-polishing liquid in the mixing step.

25. A polishing method comprising a polishing step of;
applying the metal-polishing liquid of claim 12 to a polishing pad
set on a platen, and
polishing the surface of an article to be polished with the polishing
pad by moving the polishing pad and the surface of the article relatively
to each other while keeping the surface of the article in contact with the
polishing pad.

1 26. The polishing method according to claim 25, further
2 comprising a step of mixing the constituent elements of the
3 metal-polishing liquid to prepare the metal-polishing liquid, prior to the
4 polishing step, wherein;

5 the mixing step is for mixing the following:

6 a first constituent element that contains at least one ingredient of
7 an ingredient group consisting of an oxidizing agent, an oxidized-metal
8 etchant, a protective film-forming agent and a dissolution promoter for

- 9 the protective film-forming agent,
10 *B* a second constituent element that contains at least one of the other
11 ingredients of the ingredient group, and
12 a diluent,
13 in any desired order.

*add
all*

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